GOVERNMENT OF INDIA
ATOMIC ENERGY
LOK SABHA

UNSTARRED QUESTION NO:4068
ANSWERED ON:23.12.2015
Research and Development Programme for Nuclear Disaster
Singh Shri Dushyant

Will the Minister of ATOMIC ENERGY be pleased to state:

(a)whether the Government is promoting research and development programmes to tackle with the effects of a nuclear disaster like inhibiting the harmful radiations from spreading over a large area, etc.;

(b)if so, the details thereof and if not, the reasons therefor;

(c)the details of the funds allocated to carry out these programmes/projects;

(d)the details of the projects fully or partially funded by the Government in various national or international research institutes; and

(e)the details of the preventive measures (operational) suggested to the operators of the nuclear power stations in the country?

Answer

THE MINISTER OF STATE FOR PERSONNEL, PUBLIC GRIEVANCES & PENSIONS AND PRIME MINISTER'S OFFICE (Dr. JITENDRA SINGH) :

(a)Yes, Sir.

(b)Nuclear Facilities in India are designed, constructed, commissioned and operated in conformity with relevant nuclear safety requirements. Though the engineered safety features incorporated in the nuclear facilities ensure that the probability for any major accident is extremely small, emergency preparedness and response plan (EPR) are developed on scientific basis and exercised regularly to minimise any possible radiological consequences. These include early detection of abnormal situations, Source Term (Radioactivity release) estimation, Radiological Dispersion Studies, Radiological Impact Prediction, Development of the state of the art radiation monitoring instruments, Dosimetry, Decontamination Techniques, Studies of Radioactivity migration into soil, Decision Support Systems etc.

Atomic Energy Regulatory Board (AERB) promotes R&D work in support of its regulatory decisions pertaining to nuclear and radiation facilities. AERB implements the safety analysis and R&D projects through in-house divisions & Safety Research Institute (SRI), Kalpakkam and through funding research projects of regulatory interests at various reputed universities and academic institutions under the Committee for Safety Research Programmes (CSRP). The safety analysis work carried out in nuclear and radiation safety areas are:-

(i) Reactor Safety analysis including deterministic and probabilistic safety analysis
(ii) Reactor Physics
(iii) Severe Accident Analysis
(iv) Hydrogen Distribution and Mitigation
(v) International Collaborative Safety Analysis Exercises
(vi) Structural Analysis
(vii) Thermal Hydraulic and Radiological Impact Assessment

(c)&(d) An amount of Rs.31 crore has been allocated under the XII Plan Project of BARC titled "Development of National Level Preparedness for Nuclear and Radiological Emergencies".

In addition to above, AERB has been funding a number of projects involving experimentation and analysis related to accident phenomena and accident mitigation in nuclear power plants. These projects have been useful in arriving at the safety requirements and for refining the computational tools. AERB experts are also participating in some of the research projects conducted by the International Atomic Energy Agency and the Nuclear Energy Agency of Organisation of Economic Co-operation and Development (OECD).

AERB has allocated an annual budget of Rs.2 crore for funding the Safety Research Projects. The outcome from these projects is used as an input for regulatory decisions.

(e)AERB has specified comprehensive safety requirements for various phases of establishment and operation of nuclear power stations in the country. The safety requirements are specified for siting, design, operation and decommissioning and address nuclear safety, radiation safety and safe management of radioactive wastes. The safety requirements specified for the nuclear power stations

cover both preventive and mitigatory aspects.

Detailed Emergency Operating Procedures and Emergency Preparedness Plans are put in place at all the operating nuclear power stations in the country. Emergency exercises are carried out periodically to verify and improve effectiveness of the Emergency Preparedness Plans.

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